New Patent Claims 1 to 8

1. A safety device for a sensor, in particular a rotation rate sensor, in which a sensor element and functional components provide the function of the sensor and produce a sensor output signal, wherein the functional components (1, 10 to 18) form a function section (4) and wherein, furthermore, checking components (19 to 25) are provided in a checking section (5) and monitoring components (26, 27, 28) are provided in a monitoring section (6), with the checking components (19 to 25) being designed for continuous checking of the functional components (1, 10 to 18), and wherein the monitoring components (26, 27, 28) are designed for monitoring of the checking components (19 to 25) at least once during one operating cycle and wherein the monitoring section (6) has a component (26) for monitoring the clock of a microcomputer which is contained in the checking section, a watchdog circuit (27) for monitoring the microcomputer (19) and a device (28) for testing memories within the checking section (5).

2. The device as claimed in claim 1, characterized in that the checking components (19 to 25) are designed to measure values in the function section (4) and to compare the measured values with limit values.

3. The device as claimed in claim 2, characterized in that the checking components (19 to 25) are furthermore designed to measure the sensor output signal and to compare the measured sensor output signal with limit values.

4. The device as claimed in one of claims 2 or 3, characterized in that the checking components (19 to

25) are furthermore designed to test the functional components (1, 10 to 18), with test signals being produced and being supplied to the functional components (1, 10 to 18), and the reaction of the functional components (1, 10 to 18) to the test signals being measured.

5. The device as claimed in one of claims 2 to 4, characterized in that the function section (4) contains digital components (14 to 17) and analog components (1, 10, 11), and in that the checking components are designed to access registers of the digital components (14 to 17) and to measure analog signals at the analog components (1, 10, 11).

6. The device as claimed in claim 5, characterized in that the checking section (5) contains its own analog components (20 to 23) and at least one analog/digital converter (24).

7. The device as claimed in one of the preceding claims, characterized in that the monitoring components (26, 27, 28) are designed essentially to monitor digital checking components (14 to 17).

8. The device as claimed in one of the preceding claims, characterized in that components in the function section (4), in the checking section (5) and in the monitoring section (6) are formed by an application-specific integrated circuit (ASIC), and in that gate circuits which are contained in the circuit are in each case associated with only one of the sections.